



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| | | | | |
|---|-------------|----------------------|---|------------------|
| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/691,811 | 10/23/2003 | Jean-Pierre Dath | F-716 DIV | 6352 |
| <div>7590 David J. Alexander Fina Technology, Inc. P.O. Box 674412 Houston, TX 77267-4412</div> | | | <div>EXAMINER SAMPLE, DAVID R</div> | |
| | | | <div>ART UNIT 1755</div> | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 01/03/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/691,811

Applicant(s)

DATH ET AL.

Examiner

David Sample

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-21,23-26,28-35,37,38,40,43,46,47 and 49-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21,23-26,28-35,37,38,40,43,46,47 and 49-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/206,210.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Any rejections and/or objections, made in the previous Office Action, and not repeated below, are hereby withdrawn.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 19-21, 23-26, 28-35, 37, 38, 40, 43, 46, 47 and 49-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowes et al. (US Patent No. 4,579,993).

Bowes et al. discloses a method of making a catalyst in which a zeolite is composited with a silica binder to form a catalyst, the catalyst is steamed and acid extracted to remove detrital aluminum. See the abstract. The acid extracted catalyst is calcined. See col. 7, lines 34-39. The reference exemplifies ZSM-5 (i.e., an MFI silicate). See Example 1, col's 7-8.

As to the silica binder content recited in claims 20 and 21, Bowes et al. discloses that the silica is employed as a binder in an amount of 35 weight percent. See col. 7, lines 49-50.

Bowes et al. incorporates by reference Argauer et al. (US 3,702,886) for its disclosure of ZSM-5. See col. 4, lines 34-38. Argauer et al. discloses that ZSM-5 has a silica/alumina ratio of 5 to 100 (i.e., a silicon to aluminum ratio of 2.5 to 50). See the abstract. Thus, Bowes et al. discloses that the starting ZSM-5 material has a silicon/aluminum of 2.5 to 50, which meets the requirements of the ZSM-5 starting material of instant claim 27.

Art Unit: 1755

Bowes et al. discloses calcining the acid extracted catalyst at a temperature of 400-600°C for 0.5 to 16 hours. See col. 7, lines 35-38. This calcining treatment is identical to the calcination described by instant claim 29.

As to claim 30, the reference discloses that the catalyst extrudate has a size of 1/16". See col. 7, lines 4-5.

Bowes et al. discloses that the steam treatment comprises heating in 100% steam (i.e., 100 kPa at one atmosphere) at a temperature of 400-600°C for 2 to 100 hours. See col. 7, lines 24-27. These conditions are the same as those claimed in instant claims 31 to 34.

Bowes et al. does not disclose the resultant silicon/aluminum ratio of the ZSM-5 (although the reference does disclose that zeolites having a silica/alumina ratio of 1600 are useful, see col. 2, lines 35-36). However, Bowes et al. discloses starting materials, and process steps that are identical to the presently claimed process, and therefore must result in an identical amount of dealumination. In other words, the ZSM-5 of Bowes et al. after treatment is presumed to inherently possess the final silicon/aluminum ratio recited in claims 19 and 24-26. See MPEP 2112.

The following limitations are being treated as "intended use" limitations because the recitations do not relate to the formation of the catalyst:

- The claim 19 recitation of "for cracking" and "is used for cracking";
- The claim 23 limitation "to produce ethylene and polypropylene from C₄ to C₁₀ olefins";
- The claim 23 limitation "wherein said catalyst is used to produce ... olefins";
- The claim 26 limitation "wherein said catalyst is used to crack olefins";

Art Unit: 1755

- The entirety of claims 35, 37, 38 and 43, 46, 47, 49-51.

On the subject of intended use limitations, MPEP 2111.02 states:

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. [MPEP 2111.02 (Citing *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963))]

No structural difference can be discerned between the prior art and the instant invention.

As to the claim 26 limitation regarding “orthorhombic crystal structure,” applicants admit that ZSM-5 has the orthorhombic crystal structure. See page 19, first full paragraph.

As to claim 28, the reference does not disclose that the resultant MFI zeolite has the monoclinic structure. However, Bowes et al. disclose starting materials, and process steps that are identical to the presently claimed process, and therefore must result in an identical product. In other words, the ZSM-5 of Bowes et al. after treatment is presumed to inherently possess the monoclinic crystal structure. See MPEP 2112.

Response to Arguments

Applicant's arguments filed October 9, 2006 have been fully considered but they are not persuasive.

Applicants argue that the claim recitation “is used to crack olefins” defines over the applied reference. This is not deemed persuasive for the reasons noted in the rejection above. In particular, this limitation appears to be a statement of intended use and does not imply any structure that would define over the prior art.

Art Unit: 1755

It is noted that the examiner indicated that a process step for contacting with olefins would overcome the prior art rejection as recited in the Examiner Interview Summary of 20060915. However, the amended claims do not require a concrete step of contacting with the olefin. The claims merely recite that the catalyst "is used to crack olefins."

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

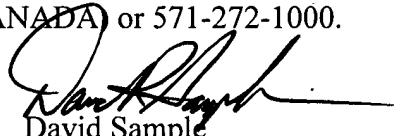
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

Art Unit: 1755

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


David Sample
Primary Examiner
Art Unit 1755